



Indiana State Department of Health

Epidemiology Resource Center

Antibiotic Use and Resistance

Resource Manual

According to the Centers for Disease Control and Prevention (CDC), antibiotic resistance is one of the world's most pressing public health problems. People of all ages can lower this risk by talking to their healthcare providers and using antibiotics appropriately.

Two major reasons that antibiotic resistance occurs are overuse (such as taking antibiotics for viral illnesses, i.e. colds) and misuse (such as skipping doses or not completing the full course of antibiotics). Studies have demonstrated 50% of all antibiotic use is either unnecessary or inappropriate.

Taking antibiotics when they are not needed can do more harm than good. Widespread inappropriate use of antibiotics is fueling an increase in drug resistant disease causing bacteria. Almost every type of bacteria has become stronger and less responsive to antibiotic treatment when it really is needed. These antibiotic resistant bacteria can quickly spread among families, schools and co-workers, thus threatening the community with a new strain of infectious disease that is more difficult to cure and more expensive to treat.

Some of the more common antibiotic resistant infections that affect Indiana citizens include Methicillin-resistant *Staphylococcus aureus* (MRSA), *Clostridium difficile* (CDI), *Streptococcus pneumoniae*, and Tuberculosis. Presently, there are additional diseases emerging as threats to the health of Hoosiers.

The Antibiotic Use and Resistance Resource Manual which follows includes information from the Indiana State Department of Health (ISDH), CDC, Healthcare Infection Control Practices Advisory Committee (HICPAC), Emerging Infectious Diseases (EID), World Health Organization (WHO), Society for Hospital Epidemiology of America (SHEA), Association for Professionals in Infection Control (APIC), Indiana Coalition for Antibiotic Resistance Education Strategies (ICARES), and Infectious Diseases Society of America (IDSA), and other state health departments. These resources include links to a variety of information from fact sheets, brochures, posters, and other sources for the general public, schools, and other organizations/facilities; including detailed medical guidelines for healthcare professionals. We hope this information will be helpful in reducing your risk of infection and providing healthcare personnel with the most current information on Antibiotic Resistance.

This manual is divided into categories with subtopics under each. By selecting a category in the table of contents, you will be directed to the resources (links) available for that specific subject.

The inclusion of documents, lectures and specific products in this Antibiotic Use and Resistance Resource Manual does not constitute an endorsement of any product or company by the ISDH.

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Antibiotic Resistance Information for the Public

- [Antibiotic Use and Antibiotic Resistance Quick Facts, ISDH](#)
- [Anti-B's Coloring Sheet, Texas State Dept. of Health Services](#)
- Antibiotic Resistance, FDA
<http://www.fda.gov/downloads/ForConsumers/ByAudience/ForWomen/ucm121845.pdf>
- [Antibiotic Safety, APIC](#)
- Get Smart: Know When Antibiotics Work, CDC
<http://www.cdc.gov/getsmart/antibiotic-use/index.html>
- [Antibiotic Resistance Questions and Answers, CDC](#)
- [Hospital vs. Home Setting Precautions for Antibiotic Resistant Bacteria Fact Sheet, Texas State Dept. of Health Services](#)
- [Antibiotic Resistance in Indiana, ICARES, Marion Co. Health Dept.](#)
- Information for Everyone, CDC
<http://www.cdc.gov/getsmart/specific-groups/everyone.html>

Antibiotic Resistance Information for Healthcare Professionals

Healthcare Guidelines

- [SHEA and IDSA Joint Committee on the Prevention of Antimicrobial Resistance: Guidelines for the Prevention of Antimicrobial Resistance in Hospitals](#) (April 1997)
- IDSA Clinical Practice Guideline for Acute Bacterial Rhinosinusitis in Children and Adults, March 20, 2012
<http://cid.oxfordjournals.org/content/54/8/1041>

General Information

- Alliance for the Prudent Use of Antibiotics (APUA)
<http://www.tufts.edu/med/apua/>
- [Campaign to Prevent Antimicrobial Resistance in Healthcare Settings, CDC](#)
- [CDC's Get Smart: Know When Antibiotics Work Program](#) - Information for Outpatient Healthcare Providers

Antibiotic Stewardship

- Antimicrobial Stewardship for the Community Hospital, CDC
<http://www.cdc.gov/getsmart/healthcare/learn-from-others/CME/antimicrobial-stewardship.html>
- Antibiotic Stewardship Driver Diagram and Change Package, IHI-CDC
[http://www.cdc.gov/getsmart/healthcare/pdfs/Antibiotic Stewardship Change Package 10 30 12.pdf](http://www.cdc.gov/getsmart/healthcare/pdfs/Antibiotic_Stewardship_Change_Package_10_30_12.pdf)
- [IDSA and SHEA Guidelines for Developing an Institutional Program to Enhance Antimicrobial Stewardship](#) (January 2007)
- Implementing and Improving Stewardship Efforts, CDC
<http://www.cdc.gov/getsmart/healthcare/improve-efforts/index.htm>

- Why Inpatient Stewardship, CDC
<http://www.cdc.gov/getsmart/healthcare/inpatient-stewardship.html>

Journal Articles

- 10x "20 Progress-Development of New Drugs Active Against Gram-Negative Bacilli, IDSA, April 17, 2013
<http://cid.oxfordjournals.org/content/early/2013/04/16/cid.cit152.full>
- *Antibiotics in Environment fuel Drug Resistance?*- WebMD, May 8, 2012
<http://www.medscape.com/viewarticle/763657?src=mp&spon=38>
- *Antimicrobial Stewardship: A Collaborative Partnership between Infection Preventionists and Healthcare Epidemiologists*-APIC/SHEA Position Paper, March 15, 2012
<http://www.jstor.org/stable/full/10.1086/665037>
- *Bad sore Throat? It's Probably Not strep, Most Likely Viral*-IDSA, September 10, 2012
http://www.idsociety.org/2012_Strep_Throat_Guideline/
- *From Bench to Bedside: Meeting Furthers Evidence-Based Infection Control Practices*-
InfectionControl Today, April 17, 2012
<http://www.infectioncontrolday.com/news/2012/04/from-bench-to-bedside-meeting-furthers-evidencebased-infection-control-practices.aspx>
- *Understanding the Physiology of Healthcare Pathogens for Environmental Disinfection*, ICT, February 2012
http://www.infectioncontrolday.com/lib/download/asset-understanding-the-physiology-of-healthcare-pathogens-for-environmental-disinfec.ashx?item_id={8C2609FF-4D0F-408F-878C-B501BBF083F5}&item_name=library_asset-understanding-the-physiology-of-healthcare-pathogens-for-environmental-disinfec

Presentations

- *Caution in Antibiotic Use for Rhinosinusitis*, Medscape, March 23, 2012
<http://www.medscape.org/viewarticle/760796?src=cmemp>
- *Containing Healthcare Associated Infections Through Antibiotic Stewardship*, APUA, May 13, 2013
http://www.tufts.edu/med/apua/news/cdc-get-smart-week-2011.shtml?utm_source=APUA+Webinar+Today&utm_campaign=Webinar&utm_medium=email
- *Three Steps to Antibiotic Stewardship*- CDC, 11-15-2010
<http://www.medscape.com/viewarticle/731784?src=mp&spon=24>
- *Antimicrobial Stewardship for the Community Hospital: Practical Tools & Techniques for Implementation*-CDC, August 24, 2010
<http://www.cdc.gov/getsmart/healthcare/learn-from-others/CME/antimicrobial-stewardship.html>
- *Get Smart About Antibiotics Week 2012*, CDC, ICT, November 2012
<http://www.infectioncontroltoday.com/galleries/2012/11/get-smart-about-antibiotics-week-2012.aspx?pg=2>
- *Get Smart for Healthcare Slides*-CDC
<http://www.cdc.gov/getsmart/healthcare/inpatient-stewardship.html>

Related Guidelines for Acute Care Facilities

- [Guide to the Elimination of MRSA Transmission in Hospital Settings, APIC, 2010](#)
- [Guide to MRSA in Long-Term Care Settings, APIC, 2009](#)
- [Management of Multidrug-Resistant Organisms in Healthcare Settings, 2006, CDC and HICPAC](#)
- [Guideline for Hand Hygiene in Healthcare Settings, 2002, CDC](#)
- [Guidelines on Hand Hygiene in Health Care, 2009, WHO](#)
- [2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings, CDC and HICPAC](#)
- [Clinical Practice Guidelines for *Clostridium difficile* Infection in Adults; 2010 Update by SHEA and IDSA \(May 2010\)](#)
- [Guide to the Elimination of *Clostridium difficile* in Healthcare Settings, APIC Guide 2008](#)
- [SHEA Guideline for Preventing Nosocomial \[HAI\] Transmission of Multidrug-Resistant Strains of *Staphylococcus aureus* and *Enterococcus*, \(SHEA, May 2003\)](#)

Related Guidelines for Long Term Care Facilities

- [*Clostridium difficile* in Long-Term-Care Facilities for the Elderly SHEA, November 2002](#)
- [Guide to the Elimination of Methicillin-Resistant *Staphylococcus aureus* \(MRSA\) in the Long-Term Care Facility APIC Guide, 2009](#)

Hand Hygiene Information

- [Clean Care is Safer Care, World Health Organization Campaign](#)
- [General Hand Hygiene Posters, Department of Veterans Affairs](#)
- [Hand Hygiene in Healthcare Settings, CDC](#)
- Guideline for Hand Hygiene in Health Care, 2002, CDC
<http://www.cdc.gov/handhygiene/Guidelines.html>
- Guidelines on Hand Hygiene in Health Care, 2009, WHO
http://whqlibdoc.who.int/publications/2009/9789241597906_eng.pdf
- [Handwashing Campaign, ISDH](#)
- [Handwashing Quick Facts, ISDH](#)
- Hand Hygiene Educational Training, CDC
<http://www.cdc.gov/handhygiene/training.html>
- Hand Hygiene Saves Lives: Patient Admission Video, CDC
http://www.cdc.gov/handhygiene/Patient_materials.html
- [Wash Your Hands Poster, Texas State Dept. of Health Services](#)

All information provided is intended for public use. This manual was last reviewed August 30, 2013.